Exhibit K

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

CELLULAR COMMUNICATIONS	§	
EQUIPMENT LLC,	§	
	§	
Plaintiff,	§	Case No. 2:20-CV-0078-JRG
	§	
V.	§	JURY TRIAL DEMANDED
	§	
HMD GLOBAL OY,	§	
	§	
Defendant.	§	

PLAINTIFF'S DISCLOSURE OF ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS

Pursuant to Patent Rules 3-1 and 3-2 of the Eastern District of Texas, Plaintiff Cellular Communications Equipment LLC ("CCE") serves its Disclosure of Asserted Claims and Infringement Contentions.

The following asserted claims and contentions are based upon CCE's good faith evaluation of information known to CCE at this time based on publicly available information and documents. CCE reserves its right to supplement and/or amend these Asserted Claims and Infringement Contentions in view of information and/or documents that may be obtained during discovery, further investigation, the Court's claim construction ruling, applicable case law and authorities, and/or any other reasons permitted under the Court's Order, the Patent Rules, and the Federal Rules of Civil Procedure. *See Eolas Techs. Inc. v. Amazon.com, Inc.*, No. 6:15-CV-01038, 2016 WL 7666160, at *2 (E.D. Tex. Dec. 5, 2016) ("[G]iven Plaintiff's assertion that Defendants have not produced all documents and code reflecting their server architectures, it is unreasonable to

expect Plaintiff to draft ICs in great detail [C]ontentions should become more detailed with the conclusion of fact discovery and claim construction.").

I. P.R. 3-1 Disclosure of Asserted Claims and Infringement Contentions

(a) Each claim of each patent in suit that is allegedly infringed by each opposing party;

By making, using, testing, offering for sale, selling, and/or importing any of the Accused Instrumentalities identified in paragraph I(b) below, Defendant directly infringes the following claims of the patent listed below (the "patent-in-suit"). Furthermore, Defendant indirectly infringes the asserted claims of the patent-in-suit. As a specific example, Defendant has, and continues to actively induce its distributors, customers, subsidiaries (including its U.S. subsidiary, HMD America, Inc.), importers, and/or consumers to infringe the asserted claims of the patent-in-suit via the Accused Instrumentalities.

CCE currently asserts all claims charted in Exhibit A, including:

- Claims 1, 2, 3, 4, and 8 of U.S. Patent No. 7,218,923 against Defendant. *See also* Exhibit A, incorporated herein by reference.
 - (b) Separately for each asserted claim, each accused apparatus, product, device, process, method, act, or other instrumentality ("Accused Instrumentality") of each opposing party of which the party is aware. This identification shall be as specific as possible. Each product, device, and apparatus must be identified by name or model number, if known. Each method or process must be identified by name, if known, or by any product, device, or apparatus which, when used, allegedly results in the practice of the claimed method or process;

The Accused Instrumentalities include each of Defendant's devices with Android version 4.2 or higher. Each Accused Instrumentality results in Defendant's direct and/or indirect infringement of the asserted claims of the patent-in-suit when the Accused Instrumentality sends messages from an application program towards a communication network, such as in the Android "Messaging" app. The name of each Accused Instrumentality for which CCE is currently aware is

listed in Appendix 1. The Accused Instrumentalities further include those products reasonably similar to the products identified in Appendix 1. Plaintiff reserves the right, in response to discovery or as otherwise permitted, to supplement Appendix 1 to include additional Android devices made, used, sold, offered for sale, or imported by Defendant.

(c) A chart identifying specifically where each element of each asserted claim is found within each Accused Instrumentality, including for each element that such party contends is governed by 35 U.S.C. § 112(6), the identity of the structure(s), act(s), or materials(s) in the Accused Instrumentality that performs the claimed functions;

A chart identifying where each element or step of the asserted claims are found within, or performed by, each Accused Instrumentality is included as Exhibit A accompanying this document. Plaintiff reserves the right to seek leave of Court to augment and supplement this disclosure after discovery from Defendant, or as permitted under the Patent Rules.

(d) Whether each element of each asserted claim is claimed to be literally present or present under the doctrine of equivalents in the Accused Instrumentality;

Based on its current understanding of the claim language and publicly available information pertaining to the Accused Instrumentalities, and without notice of any claim construction or non-infringement position from Defendant, Plaintiff asserts that Defendant literally infringes each element or step of the asserted claims. However, any claim element or step not literally present in or performed by the Accused Instrumentalities is satisfied under the doctrine of equivalents because any difference between such claim element or step and the accused element or step is insubstantial. In other words, the accused element or step performs substantially the same function, in substantially the same way, to achieve substantially the same result.

As the parties have not identified disputed claim elements, Defendant has not made its P.R. 3-4 production, and the Court has not construed any claim term, it is not yet clear whether Plaintiff will rely on the doctrine of equivalents. Accordingly, Plaintiff reserves the right, in response to

discovery, Defendant's P.R. 3-4 production, or as permitted under the Patent Rules, to amend its infringement contentions as necessary.

(e) For any patent that claims priority to an earlier application, the priority date to which each asserted claim allegedly is entitled;

The patent-in-suit is entitled to a priority date no later than the filing date of the earliest application to which it claims priority. As such, the asserted claims of the patent-in-suit are entitled to a priority date at least as early as December 18, 2003.

(f) If a party claiming patent infringement wishes to preserve the right to rely, for any purpose, on the assertion that its own apparatus, product, device, process, method, act, or other instrumentality practices the claimed invention, the party must identify, separately for each asserted claim, each such apparatus, product, device, process, method, act, or other instrumentality that incorporates or reflects that particular claim.

CCE is not aware of any apparatus, product, device, process, method, act, or other instrumentality of its own that practices the claimed inventions of the patent-in-suit.

II. P.R. 3-2. Document Production Accompanying Disclosure:

- (a) CCE is not aware at this time of any non-privileged documents sufficient to evidence discussion with, disclosure to, or other manner of providing to a third party, or sale of or offer to sell, the claimed inventions prior to the date of application for the patent-in-suit, as called for by P.R. 3-2(a);
- (b) CCE is not presently aware of any non-privileged documents that evidence conception, reduction to practice, design, and development of each claimed invention that were created on or before the above referenced date for the patent-in-suit. However, Plaintiff believes that documents responsive to P.R. 3-2(b) may be in the possession of the inventors and/or the original assignee of the patent-in-suit. In the event that discovery from such parties leads to documents that evidence conception, reduction to practice, design, and development of any

claimed invention that was created on or before the date of application for the patent-in-suit, Plaintiff reserves the right to claim such date.

(c) CCE has produced, or will concurrently produce, a copy of the file history for the patent-in-suit bearing production numbers CCE_HMD_000014-213.

Dated: July 6, 2020 Respectfully submitted,

/s/ Jonathan H. Rastegar

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record are being served with a true and correct copy of the foregoing document, Plaintiff's Disclosure of Asserted Claims and Infringement Contentions via electronic mail on this the 6th day of July, 2020.

/s/ Jonathan H. Rastegar
Jonathan H. Rastegar

APPENDIX 1

<u>CURRENTLY KNOWN HMD GLOBAL OY ACCUSED INSTRUMENTALITIES</u>

Nokia 9.3 PureView	Nokia 9 PureView	Nokia 8.3 5G	Nokia 8.1 (Nokia X7)
Nokia 8 Sirocco	Nokia 8	Nokia 7.2	Nokia 7.1
Nokia 7 Plus	Nokia 7	Nokia 6.2	Nokia 6.1 Plus (Nokia X6)
Nokia 6.1	Nokia 6	Nokia 5.3	Nokia 5.1 Plus (Nokia X5)
Nokia 5.1	Nokia 5	Nokia 4.2	Nokia 3.2
Nokia 3.1 Plus	Nokia 3.1 C	Nokia 3.1 A	Nokia 3.1
Nokia 3 V	Nokia 3	Nokia 2.3	Nokia 2.2
Nokia 2.1	Nokia 2 V	Nokia 2	Nokia 1.3
Nokia 1 Plus	Nokia 1	Nokia C5 Endi	Nokia C2 Tava
Nokia C2 Tennen	Nokia C2	Nokia C1	Nokia X71

In addition to the above-identified models, all other substantially similar models—including all devices with Android version 4.2 or higher—that are made, used, sold, offered for sale, and/or imported by Defendant are included in the Accused Instrumentalities.

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HMD Global Oy makes, uses, tests, offers for sale, sells, and/or imports user equipment operating version 4.2 and higher of the Android Operating system (the "HMD Global Devices"). Further, HMD Global induces others to use, test, offer for sale, sell, and/or import the HMD Global Devices. Each of the HMD Global Devices includes the features identified in this chart. The features and functionality identified in this chart cause the HMD Global Devices to practice the asserted claims of U.S. Patent No. 7,218,923 (the "923 patent"). The HMD Global Devices include any user equipment that HMD Global makes, uses, tests, offers for sale, sells, and/or imports that includes the Android Operating System v4.2 and higher. Such devices include, but are not limited to, the:

Nokia 9.3 PureView	Nokia 9 PureView	Nokia 8.3 5G	Nokia 8.1 (Nokia X7)
Nokia 8 Sirocco	Nokia 8	Nokia 7.2	Nokia 7.1
Nokia 7 Plus	Nokia 7	Nokia 6.2	Nokia 6.1 Plus (Nokia X6)
Nokia 6.1	Nokia 6	Nokia 5.3	Nokia 5.1 Plus (Nokia X5)
Nokia 5.1	Nokia 5	Nokia 4.2	Nokia 3.2
Nokia 3.1 Plus	Nokia 3.1 C	Nokia 3.1 A	Nokia 3.1
Nokia 3 V	Nokia 3	Nokia 2.3	Nokia 2.2
Nokia 2.1	Nokia 2 V	Nokia 2	Nokia 1.3
Nokia 1 Plus	Nokia 1	Nokia C5 Endi	Nokia C2 Tava
Nokia C2 Tennen	Nokia C2	Nokia C1	Nokia X71

The above list is not intended to be exhaustive. The term HMD Global Devices includes any device that HMD Global offered or offers which included Android Operating System v4.2 or higher. The HMD Global Devices directly infringe the asserted claims of the '923 patent.

References to source code in this Exhibit are exemplary and based off of publicly available Android source code. CCE reserves the right to change such source code designations based upon its review of the source code for the HMD Global Devices.

Claim 1	HMD Global Devices
A method for controlling application programs in a communication terminal, the method comprising:	Each HMD Global Device performs a method for controlling application programs in a communication terminal. For example, each HMD Global Device is a communication terminal that performs a method of controlling messaging applications that operate on it.

Claim 1 **HMD Global Devices** Each HMD Global Device sends messages from an application program residing in a communication terminal towards a communication network. sending messages from an For example, each HMD Global Device contains a SMS/MMS program that is pre-loaded on the device. An example of such a program is the application program towards a Android "Messages" app. The Android Messages app comprises an executable version of source code that is stored on the HMD Global Device. communication network, the application program residing in a The Android Messages app is programmed to send messages towards a communications network, such as a cellular network. For example, the communication terminal; Messages app uses the sendMessage() method when the application attempts to transmit a text message. The application invokes either method sendTextMessage() or method sendMultipartTextMessage() when the application attempts to send a text message to a base station, for forwarding to the intended recipient. The sendTextMessage() and sendTextMultipartMessage() methods are methods of the SmsManager, which is a core part of the Telephony subsystem of the Android operating system. The Android documentation (available here: https://developer.android.com/reference/android/ telephony/SmsManager.html) explains that the SmsManager "Manages SMS operations such as sending data, text, and pdu SMS messages." More specifically, the sendTextMessage() method is used to "Send a text based SMS" and the sendMultipartTextMessage() method is used to "Send a multi-part text based SMS." Send and receive messages Keep in touch with your friends and family members through text messages. SEND A MESSAGE 1. Tap Messages 2. Tap Start chat 3. To add a recipient, type their number in a recipients box. To add a contact, start typing their name and tap the contact. 4. To add more recipients, tap Start group conversation . After choosing all the recipients, tap >. 5. Write your message in the text box. Tap ►. **Source:** Nokia 9 PureView User Guide, p. 30. Alternatively, CCE contends that this claim element is met under the doctrine of equivalents because above-described features of the HMD Global Devices perform substantially the same function recited in this element, in substantially the same way to achieve substantially the same result. Any alleged differences between the above-described features and the recited element are insubstantial and immaterial to infringement.

Claim 1	HMD Global Devices
diverting a message of the messages to a controlling entity residing in the communication terminal; and	Each HMD Global Device diverts a message of the messages to a controlling entity residing in the communication terminal. Whether the SmsManager calls sendMultipartTextMessage() or sendTextMessage(), the message is delivered to a diverting unit, which is accessed by calling the sendRawPdu() method. Certain messages that are delivered to the diverting unit, exit the diverting unit and are passed to the controlling entity, which is accessed by calling the checkDestination() method. The below flow chart illustrates that messages sent from the application program and destined for the communication network are sent to the diverting unit and then potentially to a controlling entity:
	Application Program
	sendMessage()
	SmsManager.sendMultipartTextMessage()
	Android OS
	Diverting Unit Starting at entry point: sendRawPdu()
	Controlling Entity Starting at entry point: checkDestination()
	Upon entry, the sendRawPdu() method checks the received message. There are three distinct checks made: (1) If the sending of SMS messages is disabled then the message is discarded; (2) If the body of the text message is empty then the message is discarded; and (3) If the diverting unit is unable to determine the calling application's package name then the message is discarded. Messages that pass all of the above tests leave the sendRawPdu() method for the checkDestination() method. Messages that fail any of the above tests are not delivered to the checkDestination() method. Therefore, the sendRawPdu() method is configured to divert one or more, but less than all, of the messages sent from the application program to the checkDestination() method.

Claim 1	HMD Global Devices
diverting a message of the messages to a controlling entity residing in the communication terminal; and	To the extent that HMD Global contends that whether the message is passed to the controlling entity by value (as opposed to by reference) controls whether this limitation is met, passing the message by value to the controlling entity would fall within the doctrine of equivalents using either the Insubstantial Differences sets or the Function-Way-Result test. With respect to Insubstantial Differences, whether the message is passed by reference or by value, the message is delivered to the controlling entity, as evidenced by the fact that the controlling entity passes the message to the handler for transmission to the communication network. With respect to Function-Way-Result, the relevant function of "diverting a message of the messages to a controlling entity residing in the communication terminal" is to deliver the message to the controlling entity. Whether the message is passed by reference or by value, the message is delivered to the controlling entity and thus, the function is the same. The way in which the message is delivered to the controlling entity is as usually the same in that the destination string and body string are both delivered to the controlling entity. The result of delivering the message to the controlling entity is the same in that the controlling entity controls whether the received message will be transmitted to the communication network. The Messages app is used to send text messages via the communication networks to a recipient. The Messages app calls sendRawPdu(), which diverts some (but not all) text messages and sends them to the controlling entity. The controlling entity is a separate method, checkDestination(), which controls and limits the behavior of the Messages application. Thus, the diverting unit and the controlling entity are components with separate structure. Whilst both the diverting unit and the controlling entity reside in the terminal, the diverting unit (found in method sendRawPdu()) is separate from the controlling entity, which is found in method checkDestination().

Claim 1	HMD Global Devices
based on the message, controlling in the controlling entity whether the application program behaves in a predetermined manner in the communication terminal, the controlling being performed before the message is transmitted from the communication terminal to the	The controlling entity controls, based on the message, whether the application program behaves in a predetermined manner in the communication terminal. The control occurs before the message is transmitted from the communication terminal to the communication network.
	The controlling entity is implemented by the checkDestination() method. The controlling entity calls the SmsUsageMonitor.checkDestination() method to determine if the message is a premium short code, which is a short phone number that may have additional user fees. If the message is not a premium short code, the message is sent to the communication network. Otherwise, the controlling entity checks if it was previously configured by the user to ALWAYS or NEVER send premium short codes, and if configured, the message is either sent or discarded, respectively.
communication network.	All other messages are sent to the controlling entity's handleConfirmShortCode() method. This method informs the user via a dialog that the application "would like to send a message to" the destination, and that "this will cause charges on your mobile account". The user can choose to allow or deny the message to be sent. The message that is sent from the application consists of two parts — the number to which it is being sent (i.e. its destination) and the body (i.e. the text, pictures, etc.). In particular, a message (consisting of both destination number and body), when sent towards the communication network via the sendMultipartTextMessage() method, is checked to confirm that the message contains a destination. If the destination is missing, the method raises an error. The controlling entity examines the destination (the number portion of the message) to determine whether to allow the message to be sent to the communication network, and thus the requirement that the controlling entity control based on the message is met. When the Messages app invokes sendTextMessage() or method sendMultipartTextMessage(), the predetermined manner of operation is to send messages to the communication network without further action from the user. The controlling entity controls whether the Messages app behaves in this manner. For example, if the controlling entity examines the message and determines that the message is for a premium SMS code, then it will take one of the above described actions. If the device was configured to NEVER send premium short codes and the message is for a premium SMS code, then a dialog will be presented to the user and the Messages application will not behave in the predetermined manner. Similarly, if the device was not previously configured to either ALWAYS or NEVER send premium short codes and the message is for a premium SMS code, then a dialog will be presented to the user and the Messages application will not behave in the predetermined manner. Therefore, the controlling entity controls based u

Claim 1 **HMD Global Devices** based on the message, controlling in The below flow chart illustrates the flow of the controlling entity: the controlling entity whether the application program behaves in a **START** predetermined manner in the communication terminal, the controlling being performed before the message is transmitted from the checkDestination() communication terminal to the communication network. SmsUsageMonitor.checkDestination() Is message NOT a NO User permission NO User permission handleConfirmShortCode() premium short code? to ALWAYS send? to NEVER send? YES YES YES NO Send SMS message Discard SMS message Send SMS message User confirms send? YES Send SMS message

To the extent that HMD Global contends any limitation is not literally present, CCE contends that this claim element is met under the doctrine of equivalents because above-described features of the HMD Global Devices perform substantially the same function recited in this element, in substantially the same way to achieve substantially the same result. Any alleged differences between the above-described features and the recited element are insubstantial and immaterial to infringement.

Claim 2	HMD Global Devices
The method according to claim 1, further comprising: checking, prior to the sending of the messages, a right related to the application program, the right indicating whether the application program is authorized to run in the terminal.	Each HMD Global Device checks prior to the sending of the messages, a right related to the application program, the right indicating whether the application program is authorized to run in the terminal. For example, upon launching the Messages app, the Android operating system verifies that the app is authorized (e.g., enabled, unfrozen, or signed) to run on the device. Alternatively, CCE contends that this claim element is met under the doctrine of equivalents because above-described features of the HMD Global Devices perform substantially the same function recited in this element, in substantially the same way to achieve substantially the same result. Any alleged differences between the above-described features and the recited element are insubstantial and immaterial to infringement.

Claim 3	HMD Global Devices
The method according to claim 2, wherein the controlling comprises modifying the message diverted to the controlling entity.	The controlling discussed in relation to claim 1 comprises modifying the message diverted to the controlling entity. For example, each HMD Global Device is configured to convert the message's encoding scheme (e.g., from 16-bit encoding to 8-bit encoding). As another example, the HMD Global Devices are configured to modify the message by converting the case of the letters in the body of the message (e.g., lower-case to capital letters). Alternatively, CCE contends that this claim element is met under the doctrine of equivalents because above-described features of the HMD Global Devices perform substantially the same function recited in this element, in substantially the same way to achieve substantially the same result. Any alleged differences between the above-described features and the recited element are insubstantial and immaterial to infringement.

Claim 4 **HMD Global Devices** The method according to claim 1, For each HMD Global Device the controlling comprises preventing the message diverted to the controlling entity from being transmitted to the communication network. For example, if the Messages app was previously configured by the user to NEVER send premium short codes the message is wherein the controlling comprises discarded and prevented from being transmitted to the communication network. Similarly, if the handleConfirmShortCode() method receives an instruction preventing the message diverted to to deny sending a premium short code, the message is discarded and prevented from being transmitted to the communication network. the controlling entity from being transmitted to the communication **START** network. checkDestination() SmsUsageMonitor.checkDestination() s message NOT a NO NO User permission User permission handleConfirmShortCode() premium short code? to ALWAYS send? to NEVER send? YES NO Discard SMS message Send SMS message Send SMS message User confirms send? YES Send SMS message Alternatively, CCE contends that this claim element is met under the doctrine of equivalents because above-described features of the HMD Global Devices perform substantially the same function recited in this element, in substantially the same way to achieve substantially the same result. Any alleged differences between the above-described features and the recited element are insubstantial and immaterial to infringement.

Claim 8	HMD Global Devices	
The method according to claim 1, wherein the diverting comprises diverting the messages to the controlling entity.	The diverting comprises diverting the messages to the controlling entity. As detailed above, certain messages that are delivered to the diverting unit, exit the diverting unit and are passed to the controlling entity, which is accessed by calling the checkDestination() method.	
	Application Program	
	sendMessage()	
	SmsManager.sendMultipartTextMessage()	
	Android OS	
	Diverting Unit Starting at entry point: sendRawPdu()	
	Controlling Entity Starting at entry point: checkDestination()	
	Alternatively, CCE contends that this claim element is met under the doctrine of equivalents because above-described features of the HMD Global Devices perform substantially the same function recited in this element, in substantially the same way to achieve substantially the same result. Any alleged differences between the above-described features and the recited element are insubstantial and immaterial to infringement.	